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A COMPARISON OF THREE BEHAVIORAL METHODS
FOR THE TREATMENT OF SHYNESS

A Thesis
Presented to
the Faculty of the Department of Psychology
University of the Pacific

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts

by
Patricia Hunter
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This thesis, written and submitted by

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ABSTRACT

The purpose of the present study was to compare both existing and new behavioral treatments for a prevalent problem, shyness. The relative contributions of mastery imagery, coping imagery, and self-instructions in a systematic desensitization procedure were evaluated in an SPF 3.3 design. Sixteen severely shy college students were randomly assigned to 3 groups of 5, 6, and 5, respectively, and were treated by either desensitization using mastery imagery, desensitization using coping imagery, or desensitization using both coping imagery and self-instructions. Results indicate that although each of the three treatment procedures helped to reduce shyness anxiety, the treatment employing self-instructional training was the most effective. Suggestions for improving this study and the practical implications of this study's findings are discussed.

Shyness can be defined as excessive anxiety and/or social skill deficiencies that manifest themselves in the presence of others (Curran, 1974). According to a survey of more than 800 students conducted at two major universities and one high school, over 40% of the respondents described themselves as shy (Zimbardo, Pillcontis & Norwood, 1975). Furthermore, three-fourths of the respondents said that they didn't like being shy and that they would prefer to become more gregarious if they could. In another survey on the prevalence of shyness (Zimbardo, 1969), more than half of the shy respondents felt they could benefit by therapeutic help and that they would go to a "shyness" clinic if one existed.

A task analysis of behaviors exhibited by shy people (Zimbardo et al., 1975) has revealed three main components. Behaviorally, the shy person is almost always silent in social situations, especially in the company of strangers and members of the opposite sex. She frequently avoids eye contact.¹ She often tries to avoid other people completely, taking refuge in books, nature, or other private projects. She often avoids taking any type of action in social situations and speaks in a quiet voice when she speaks at all. Cognitively, the shy person reports extreme concern with what others think of her and a fear of negative

evaluations from others. She evaluates herself negatively as well, and reports attending mainly to the unpleasantness of social situations. Physiologically, the dominant reactions reported by shy people are increased pulse, blushing, perspiration, butterflies in the stomach, and heart pounding.

Unlike many fears which occur in the presence of limited or infrequent events, being shy can come at a high personal cost.² Furthermore, the adverse consequences associated with shyness are likely to occur whenever the person is with others, especially in new and unfamiliar social situations. For many shy people this can be a daily happening.

Among the adverse consequences of shyness are (a) difficulty attending to others; (b) difficulty communicating effectively in the presence of others; and (c) a preoccupation with one's own painful internal reactions (Zimbardo, et al., 1975). All of these can lead to problems in being appropriately assertive and in expressing opinions, values, and feelings. The shy person also makes it difficult for other people to perceive her positive behaviors, with the result being a failure to meet new people and make new friends. Negative emotional correlates such as depression, isolation and loneliness become part of the shy person's world.

The behavioral technique of systematic desensitization has helped people become less socially anxious, and it

also seems applicable to the problems of shyness (Curran & Gilbert, 1975). The specific steps used in desensitization therapy (e.g., relaxation training, hierarchy development, and pairing of individual hierarchy items with relaxation) have been described by Wolpe (1958) and are based on the principles of reciprocal inhibition and counter-conditioning. According to Wolpe:

If a response antagonistic to anxiety can be made to occur in the presence of anxiety-evoking stimuli so that it is accompanied by a complete or partial suppression of the anxiety responses, the bond between those stimuli and the anxiety responses will be weakened (1958, p. 62).

In Wolpe's standard systematic desensitization the client is never allowed to feel anxious. If she begins to feel tense during the presentation of the hierarchy scenes, she is instructed to stop imagining the scene immediately and to concentrate on trying to relax. Successful completion of the hierarchy depends on the client mastering, usually by imagery, situations or events previously associated with anxiety. In a sense she is required to face up to her fear without feeling fear. It is assumed that if this can be done by imagery, the absence of fear will carry over to real life situations through a process of stimulus generalization.

The "mastery imagery" procedure described above is consistent with Wolpe's principle of counterconditioning, which involves pairing a state of relaxation with the visualization of anxiety-eliciting scenes. In other words, to bring about successful counterconditioning, the relaxation response must always be stronger than the anxiety response.

In contrast to a mastery imagery procedure, Goldfried (1971) has suggested a self-control approach to systematic desensitization where the client is taught to cope with anxiety. Although Goldfried has not attempted to test this procedure empirically, he proposes that this be done by incorporating coping imagery (rather than "mastery" imagery) into the treatment procedure. With coping imagery the client is told to continue imagining a hierarchy scene even if she begins to feel tense, since in real life the client cannot always remove herself from feared situations once she becomes anxious. Instead, desensitization is viewed as a "dress rehearsal" for learning new ways of anxiety management in real life situations or a practice session for successfully coping with anxiety so that it no longer elicits unwanted escape or avoidance behavior.

Meichenbaum (1972) has experimented with coping imagery but with an additional component, self-instructional training. This involves teaching the client to relax during the relaxation-imagery sequence while at the same time engaging in covert rational self-talk. Meichenbaum believes that anxiety is made worse by irrational or catastrophic beliefs the client has about fear producing situations. Thus anxiety can be countered by teaching the client to engage in more realistic thinking. For example, a client who is afraid of test-taking may believe that a failing score is a sign of personal weakness or a reason to be rejected

by others. To counter these beliefs, and the anxiety they elicit, Meichenbaum would encourage the client to literally tell herself, "I've studied hard and will try my best," or, "I want to do well, but it's not the end of the world if I don't," as she gradually works up to actual test-taking situations.

Meichenbaum's (1972) results with this approach (the "cognitive modification procedure") showed that it is more effective than traditional desensitization in treating test phobic college students. Assessment was based on a comparison of (a) test-taking performance in an analogue test situation, (b) self-report given immediately after post-treatment, and later at a one-month follow-up, and (c) grade-point average. Unfortunately, the design of Meichenbaum's study did not allow one to evaluate the relative contribution of coping imagery and self-instructions in reducing inappropriate fears. In his words, "the relative importance of the emphasis placed on relaxation, coping imagery or suggestions (sic), and modeled examples of task-relevant self-instructions is impossible to isolate from the present study and requires further research" (Meichenbaum, 1972, p. 378). Weissberg (1977) attempted to isolate those variables by comparing standard desensitization, desensitization with coping imagery, and cognitive modification in the treatment of speech anxiety. His results indicated no significant differences between the three treatments, but trends in the data pointed to the greater effectiveness of

the cognitive modification program in reducing both speech anxiety and generalized anxiety.

The present study compared three variants of systematic desensitization in treating shyness. Although it seemed reasonable to assume that cognitive modification procedures can produce therapeutic results with shy people, as they have with test phobic clients, this has yet to be demonstrated. It also seemed appropriate to evaluate the efficacy of different fear reducing techniques more extensively than has been done so far.

This study, therefore, involved a direct comparison of three treatment groups: (a) Wolpe's standard systematic desensitization (Paul & Shannon, 1966; Wolpe, 1958)³; (b) systematic desensitization using coping imagery rather than mastery imagery (Goldfried, 1971; Meichenbaum, 1974), and (c) systematic desensitization using coping imagery plus self-instructional training as described by Meichenbaum (1974). No untreated or delayed treatment control groups were used since previous research has suggested that people in these groups usually don't improve.

In summary, the present research had several purposes. First, it attempted to evaluate the relative contribution of mastery imagery, coping imagery, and self-instructions in a desensitization procedure. Second, it attempted to evaluate the correctness of Wolpe's theoretical position that minimal or no anxiety during desensitization is necessary for the reduction of fear. Finally, it was an attempt

to compare both existing and new behavioral treatments for a prevalent problem, shyness.

Method

Subjects

Subjects were recruited from a population of about 600 undergraduates enrolled in liberal arts classes at the University of the Pacific during the 1976 fall semester. Only persons who expressed an interest in receiving treatment for shyness were considered for inclusion in the study. From this group, subjects were selected on the basis of their responses to both the Social Avoidance and Distress Scale and the Fear of Negative Evaluation Scale (Watson & Friend, 1969). The sample for the study consisted of the top 3% of the students who scored the highest (the most socially distressed) on the two instruments. Scores on the instruments were combined to make this determination. Eight males and eight females, with a mean age of 19 years, participated in the study. Treatment took place in a classroom of the University of the Pacific campus. The room was temperature controlled and carpeted so as to provide comfort for the subjects during the relaxation procedure.

Persons who met the criteria listed above were contacted by telephone and invited to participate in an experimental treatment program aimed at helping shy persons become more socially comfortable and at ease with both friends and strangers. A copy of the telephone interview is included

in Appendix A. All subjects were asked to complete an "Informed Consent Form" before the study began. (See Appendix B.)

Experimental Design

An SPF 3.3 (Kirk, 1968) design was used. Subjects were randomly assigned to the three treatment groups, with the groups consisting of 5, 6, and 5 subjects, respectively. Assessment was done at pre-treatment, post-treatment and at an eight week follow-up.

Outcome Measures

The Social Avoidance and Distress Scale, a 28 item social anxiety scale, and the Fear of Negative Evaluation Scale, a 30 item social anxiety scale (Watson & Friend, 1969), were administered to all groups at pre- and post-treatment and at follow-up. Both instruments have been shown to possess adequate reliability and validity, and they have been used repeatedly in other investigations of social anxiety (Arkowitz, Lichenstein, McGovern & Hines, 1975; Watson & Friend, 1969). Copies of all the assessment devices used are shown in Appendix C.

In addition to the outcome measures described above, one other instrument was used to gain information about treatment effects. This was the Self-Report Questionnaire, consisting of three questions about the frequency of each subject's present social interactions, plus ratings (on a ten-point likert scale) of their social anxiety and social

skill in social situations. The questionnaire was administered to all groups at pre- and post-treatment, and at follow-up.

Procedure

Treatment was given on a group basis. The scheduling of events for all of the groups is shown in Table 1. Beyond that, the groups were run as follows:

Group 1: Systematic desensitization. This group received the standard systematic desensitization program described by Wolpe (1958) and later modified for use in groups by Paul and Shannon (1966). However, during the fourth session of treatment the experimenter inadvertently used verbal instructions which deviated slightly from the standard procedure used by Wolpe and by Paul and Shannon. These verbal instructions included information from Albert Ellis' (1962) rational-emotive therapy counseling techniques. Otherwise this group followed standard procedures. Treatment consisted of (a) training subjects in deep muscle relaxation using an abbreviated form of Jacobsen's (1938) technique, (b) constructing a ten-item spatio-temporal anxiety hierarchy related to shyness (See Appendix D) which consisted of a graded series of events falling along a stimulus generalization gradient of distance in time and space from the least to the most threatening social situations, and (c) counterconditioning from the hierarchy by directing subjects to imagine the items while in a state of deep muscle relaxation.

Table 1

Time Table for Treatment Procedures

Session	Group	Activities	Minutes
I	I	Pretesting	5
		Introduction	5
		Rationale for treatment	5
		Relaxation Training	30
		Discussion of training	5
		Homework assigned	3
I	II	Same as Group I	Same as Group I
I	III	Same as Group I plus presenting the rationale for self-instructional training and discussion of it.	Same as Group I
II	I	Discussion of homework	10
		Present rationale for hierarchy instruction	10
		Additional relaxation training	20
		Test for imagery	5
		Discussion of training and test	5
II	II	Same as Group I	Same as Group I
II	III	Same as Group I with the addition of discussion about the home self-instructional picture	Same as Group I

KEY: Group I - Systematic desensitization
 Group II - Systematic desensitization and coping imagery
 Group III - Systematic desensitization and coping imagery and self-instruction.

Session	Group	Activities	Minutes
III	I	Discussion of hierarchy constructed by experimenter and subjects, problems in relaxation and use of imagery.	15
		Relaxation induced, items from hierarchy presented, progression from item to item contingent on no anxiety experienced.	40
		Discussion of relaxation and problems related to item presentation.	5
III	II	Same as Group I, but instruct S to use coping imagery rather than mastery imagery, progression of items based on S imagining coping with situation.	Same as Group I
III	III	Same as Group I, but instruct S to use coping imagery and self-instructions.	Same as Group I
IV	I	Discussion of problem areas including charges in the anxiety hierarchy or construction of new items.	10
		Relaxation induced, hierarchy items presented.	40
		Discussion of individual subject reactions during desensitization.	10
IV	II	Same as Group I	Same as Group I
IV	III	Same as Group I	Same as Group I
V	I	Same as Session IV, but post-testing conducted for extra 5-10 minutes at end of session.	Same as Session IV
V	II	Same as Group I	Same
V	III	Same as Group I	Same

First session. During the first treatment session about 5 minutes was devoted to personal introductions and another 5 minutes was spent by the experimenter requesting information about the degree, duration and extent of social anxiety experienced by each client. Five to ten minutes were then spent in presenting the rationale (See Appendix E) and course of treatment. The rationale was limited to a brief statement that people's emotional reactions are the result of previous experiences, and that when inappropriate, these reactions can be unlearned. Unlearning is accomplished by determining situations in which the person becomes anxious, constructing a hierarchy of situations from least to most anxiety producing, and repeatedly visualizing these situations while deeply relaxed. It was also explained that people cannot be both tense and relaxed at the same time. In gradually proceeding up the hierarchy, through imagery, the relaxed state will desensitize the previously anxiety provoking situations and generalize to natural settings.

The following 30-35 minutes of the treatment hour consisted of training clients in progressive relaxation, with appropriate modifications for group training. The specific training methods were taken from Paul and Shannon (1966). A copy of the relaxation script is shown in Appendix F.

After completion of relaxation training, the remaining 5 to 10 minutes of the session were devoted to a discussion

of feelings and problems experienced while relaxing. Subjects were then instructed to practice relaxation at home for 15 minutes twice a day.

Second session. The first 10 minutes of the second session was spent discussing the home relaxation practice and correcting problems of misconceptions involved with the relaxation training. The next 10-15 minutes consisted of the experimenter explaining her rationale for the construction of the hierarchy, which was based on the subjects' responses to the Fear of Negative Evaluation Scale and the Social Avoidance and Distress Scale. (See Appendix G for a copy of the rationale for hierarchy construction).

The next 20-25 minutes of the second session consisted of additional training in progressive relaxation followed by a test for imagery. The latter test involved asking subjects to imagine a common non-anxious scene and evaluating it for vividness, detail and the amount of time needed to produce the image according to an imagery questionnaire administered directly afterwards. Each subject met criteria (See Appendix I) on this test. The remaining time involved the experimenter discussing these results with the subjects.

Third session. Group approval of the constructed hierarchy was obtained during the first 15 minutes of the third session by means of the experimenter reading the list of items and receiving position feedback from the group. Following this, relaxation was induced. The remaining time

(up to the last five minutes) was devoted to the presentation of two items from the hierarchy. The guidelines presented by Paul (1965), gearing individual hierarchy items to the "slowest" group member, were followed. The experimenter asked each subject, while in a state of deep muscle relaxation, to imagine mastering the situation contained in that hierarchy item. For example, the therapist would say:

Imagine yourself on a Saturday night, 7:00 P.M., entering a house where there is a party you have been invited to and where you don't know anybody. You enter and calmly introduce yourself to the hostess. Picture yourself mastering the situation. If any anxiety at all is felt, quit imagining the scene and concentrate only on how relaxed your muscles feel.

It was emphasized that if any anxiety at all was felt, the subject should immediately terminate the image and concentrate on the pleasant sensations of relaxation. Progress from one item to the next was contingent on each subject achieving a state of deep muscle relaxation while imagining herself in complete mastery of the situation. (The only change in item presentation, compared with individual desensitization, was that each desensitization session began with a presentation of all new items covered in the previous session. This was done to avoid the necessity of make-up sessions if any subject was unable to attend a single meeting. This situation occurred twice, when two subjects and one subject, respectively, missed the second and fifth scheduled sessions).

Fourth session. The first five minutes of this session

was devoted to a discussion of problem areas including changes in the descriptions of the hierarchy items used. Subjects requested that the experimenter use more detail as to time and space when asking them to imagine a particular scene. For example, when asked to imagine themselves at a party, subjects requested more convincing detail regarding setting. Accordingly, the experimenter included such detail as day of the week, time of day, weather conditions, bodily state (tired or energetic), general party location, etc. Next, relaxation was induced and the remaining forty minutes were devoted to subjects imagining four items from the hierarchy. The experimenter at this time presented verbal instructions which deviated somewhat from the standard procedure. For example, the therapist said:

Imagine yourself on a Saturday night, 7:00 P.M., entering a house where there is a party you have been invited to, and where you don't know anybody. You enter and calmly introduce yourself to the hostess. Picture yourself mastering the situation. If any anxiety at all is felt, quit imagining the scene and concentrate only on how relaxed your muscles feel.

But then the verbal instructions from Ellis' rational emotive therapy were used:

What's the worst thing that could happen to you in this situation? Maybe you will be quiet, maybe you won't have a lot to talk about? So what? Will the world fall in if you are less than the life of the party?

Other than including the additional verbal instructions during the presentation of each new hierarchy item, the fourth session followed standard procedures. The last five minutes

of this session were devoted to a discussion of individual subject reactions during the desensitization session. They were unanimously favorable. Subjects appreciated the extra detail used in descriptions of the hierarchy scenes.

Fifth session. Session Five was conducted according to the following time schedule. The first five minutes were spent discussing the previous session. Next, relaxation was induced and the remaining 40 minutes were devoted to imagining four more items from the hierarchy. Verbal instructions during this session followed the standard procedure. During the last 15 minutes of this session subjects completed the Social Avoidance and Distress Scale, the Fear of Negative Evaluation Scale, and the Self-Report Scale.

Group II: Coping imagery desensitization. The procedure in this group followed the format of the traditional systematic desensitization procedure described above. However, one major modification occurred in the verbal instructions. Instead of asking the subjects to imagine themselves mastering the situation presented in the hierarchy while in a state of total relaxation, they were asked to imagine themselves coping with the situations. For example, the therapist would say:

Imagine yourself on a Saturday night, 7:00 P.M., entering a house where there is a party you have been invited to and where you don't know anybody. Picture yourself coping with the situation, noticing what you have been feeling and doing. These are the remainders, the cues to cope. Picture yourself coping, taking a slow deep breath. See yourself parting your lips and as you are

breathing out you are feeling much calmer. If you feel any anxiety, keep imagining yourself coping with the situation.

Total relaxation was not required for the subjects to progress from one hierarchy item to another. If the subject began to feel anxious, she was encouraged to imagine herself coping with the situation. For example, if a subject began to feel anxious while imagining herself meeting someone new at a party, she wasn't told to terminate the scene. Rather, she was asked to imagine herself coping with the situation (viz. breathing deeply) regardless of her anxiety. The anxiety was to be regarded as an unpleasant occurrence, not a major catastrophe. All other steps in this "coping imagery desensitization" group followed the standard procedure described above.

Group III: Coping imagery plus self instruction. The third treatment group consisted of the coping imagery desensitization procedure just described, plus the addition of self-instructional components as developed by Meichenbaum (1972). The only difference between this treatment procedure and the one above involved instructing the subjects to talk to themselves, telling themselves covertly what to do. This was in addition to the visualization of coping with the situation. For instance, the experimenter presented a scene from the hierarchy involving some form of social pressure. She asked the subject to see herself in that situation, feeling herself become tense and anxious, her eyes wandering around the room, her images and thoughts

jumbled. At this point the therapist said:

Imagine yourself on a Saturday night, 7:00 P.M., entering a house where there is a party you have been invited to and where you don't know anybody. Picture yourself coping with the situation, noticing what you have been feeling, and doing, and thinking. These are the reminders, the cues to cope. See yourself taking a slow, deep breath. See yourself parting your lips and as you are breathing out, feeling calm, you are telling yourself what to do. 'I am anxious now, but I know how to control it. I'll just breathe deeply, relax, and try my best to pay attention to the good people here at this party. I know I can't be loved by everybody here, and it would be unreasonable to expect it. But I am capable of making a good attempt at relaxing myself at this party.'

Except for the two major modifications in this procedure, (coping imagery plus self-instructional training) this treatment group followed the standard systematic desensitization procedure described earlier.

Results

The reliability of a composite score is equal to or higher than individual scores that enter into it (Nunnally, 1967). Hence, for each subject scores on the Social Avoidance and Distress Scale, the Fear of Negative Evaluation Scale, and the Self-Report Scale were combined into a single score. This score was used in all subsequent analyses. Lower scores indicate a lower amount of anxiety; higher scores indicate a greater amount of anxiety.

Figure 1 shows the mean composite anxiety score for each of the groups before and after treatment and at an eight-week follow-up. Individual subject data are shown in Table 2. An SPF 3.3 (Kirk, 1968) was performed on these

Figure 1. Average combined anxiety scores for subjects in each of the groups at pre-, posttreatment, and follow-up sessions.

Group I	(Systematic Desensitization)	_____
Group II	(Systematic Desensitizing + Coping)	-----
Group III	(Systematic Desensitizing + Coping + Self-Instruction)	— — — — —

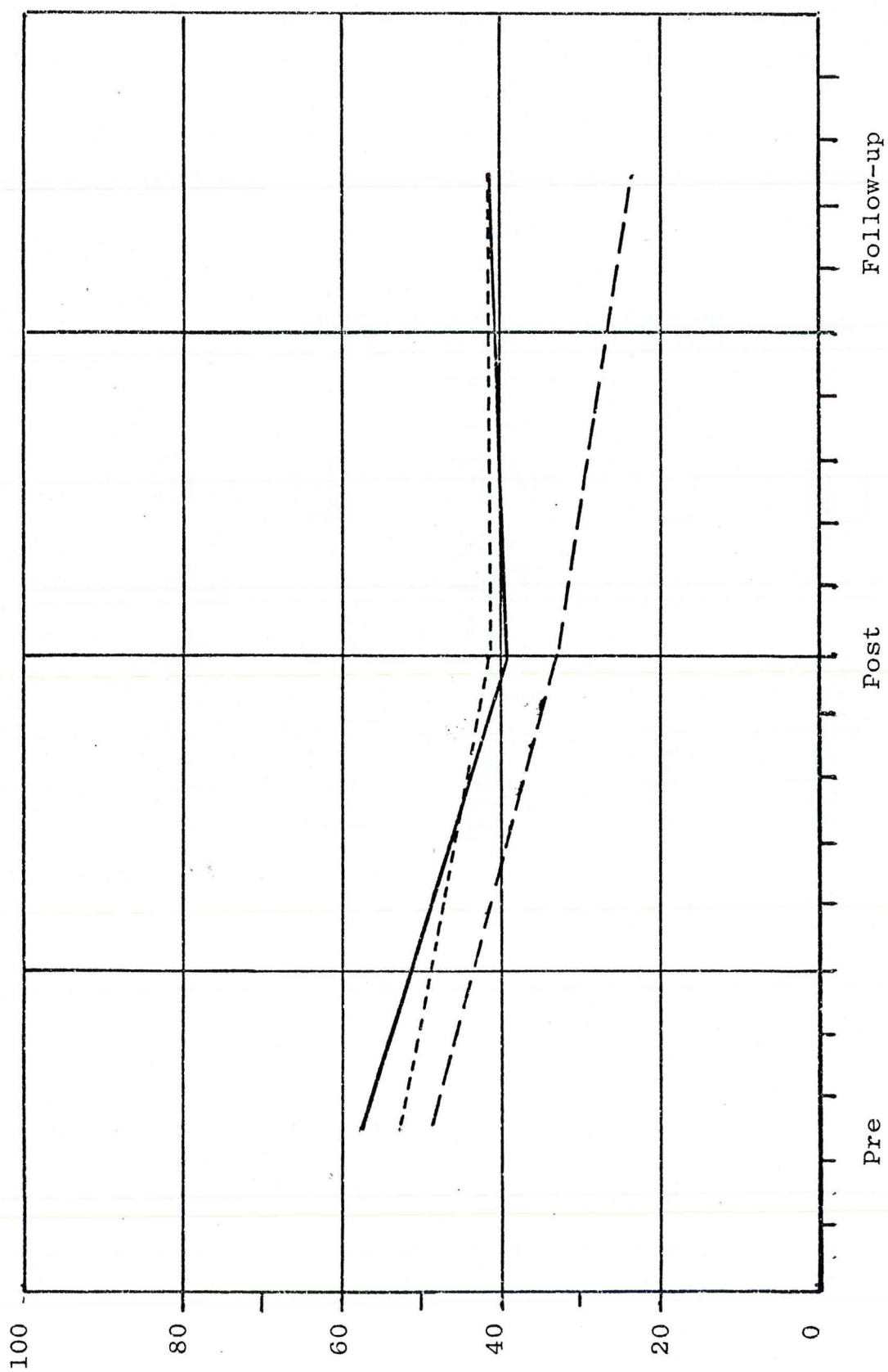


Table 2

Summary of individual subject data for subjects from each of the groups. Pre, posttreatment and eight-week follow-up scores on the three outcome measures were combined to yeild a single score.

Group		Pre	Post	Follow-up
Systematic Desensitization	S	44	18	30
	S	44	28	34
	S	60	46	52
	S	68	46	41
	S	<u>69</u>	<u>58</u>	<u>54</u>
		285	196	211
Mean		57	39	42
Systematic Desensitization + Coping	S	59	55	50
	S	48	35	32
	S	48	40	42
	S	54	34	35
	S	41	30	36
	S	<u>72</u>	<u>59</u>	<u>60</u>
		322	256	255
Mean		53	42	42
Systematic Desensitization + Coping + Self-Instruction	S	73	40	30
	S	39	33	25
	S	56	36	17
	S	45	27	21
	S	<u>35</u>	<u>30</u>	<u>27</u>
		248	166	120
Mean		48	33	24

Table 3

Analysis of Variance Table

Source	SS	df	MS	F
<u>Unweighted-Means Solution</u>				
A	105.532	2	52.766	.161
Subj w/in groups	4253.4	13	327.1	
B	2343.68	2	1171.84	35.66*
AB	2060.89	4	515.22	15.679*
B subj w/in groups	854.6	26	32.86	
<u>Simple Effects</u>				
Between subjects				
Between A at b_1	170.56	2	85.28	2.25
Between A at b_2	244.12	2	122.06	3.23
Between A at b_3	592.54	2	296.27	7.83**
Within cell	5108	135	37.84	
Within subjects				
Between B at a_1	283.79	2	141.90	14.94*
Between B at a_2	192.79	2	96.40	10.15*
Between B at a_3	525.50	2	262.75	27.66*

*p < .01

**p < .02

imagery plus self-instruction. At follow-up Group III showed significantly lower anxiety scores than the other two groups. Anxiety scores on Group I became significantly lower from pretesting to posttesting, and from pretesting to follow-up. Group II anxiety scores also showed a significant decrease from pretesting to posttesting, and from pretesting to follow-up. A significant decrease from pretesting to posttesting, and from pretesting to follow-up occurred in Group III. In addition, there was significant decrease in reported anxiety from posttesting to follow-up.

Discussion

The technique of systematic desensitization has helped people become less socially anxious (Curran & Gilbert, 1975) and less test anxious (Meichenbaum, 1972) but has rarely been applied to the problem of shyness. The present study demonstrated that three variants of systematic desensitization can be effective in reducing shyness anxiety in college students. Considering Zimbardo's (1975) findings on the extensive prevalence of shyness, these results indicate a useful and efficient approach to the problem. Over 90% of the thesis subjects said it was useful because they considered the program useful, and that they would recommend the treatment to a shy friend. It was efficient because the treatment lasted only five weeks, and costs were minimal.

Although each of the three treatment procedures helped to reduce shyness anxiety, the treatment employing self-

Table 4
Differences Among Means

	\bar{x}_1	\bar{x}_2	\bar{x}_3
<u>A at b_2</u>			
$\bar{x}_1 = 39.2$	-	2.9	6
$\bar{x}_2 = 42.1$	2.9	-	8.9*
$\bar{x}_3 = 33.2$	6	8.9*	-
(HSD = 8.904)			
<u>A at b_3</u>			
$\bar{x}_1 = 42.2$	-	-	18.2*
$\bar{x}_2 = 42.5$.3	-	3
$\bar{x}_3 = 24$	18.2*	18.5*	-
(HSD = 8.904)			
<u>B at a_1</u>			
$\bar{x}_1 = 59$	-	17.8*	14.7*
$\bar{x}_2 = 39.2$	17.8*	-	3.1
$\bar{x}_3 = 42.3$	14.7*	3.1	-
(HSD = 4.68)			
<u>B at a_2</u>			
$\bar{x}_1 = 53.6$	-	11.5*	11.1*
$\bar{x}_2 = 42.1$	11.5*	-	.4
$\bar{x}_3 = 42.5$	11.1*	.4	-
(HSD = 4.25)			

* $p < .05$

instructional training was the most effective. This finding is consistent with Meichenbaum's (1972) research on reducing test-taking anxiety in college students. He compared group desensitization with a cognitive modification treatment which consisted of a desensitization component, coping imagery, and self-instructional training. The cognitive modification procedure was the more effective of the two.

The results are also similar to the recent findings of Weissberg (1977), who compared desensitization, desensitization with coping imagery, and cognitive modification. No significant differences were found among groups but trends in the data suggested greater effectiveness in the cognitive modification program.

The present study attempted to isolate the effects of coping imagery and self-instructional training by employing the two techniques together in one group and coping imagery alone in another. Results showed that coping imagery plus self-instruction led to a significantly greater reduction in shyness anxiety compared to systematic desensitization alone, using either mastery or coping imagery. This lends support to what many investigators have been saying; namely, that an individual's overt response to many situations is mediated by private or covert responses, such as attitudes, assumptions, internal sentences and labels about a situation, rather than the situation itself. (Ellis, 1963; Lazarus, 1966; Meichenbaum, 1972; Schacter, 1966).

As mentioned earlier in this paper, the experimenter

inadvertently deviated from the planned procedures for the standard desensitization group during the fourth session, when she used verbal instructions from Ellis' rational-emotive therapy. One interesting finding in the study was that the coping plus self-instruction training group was superior to the standard desensitization group at follow-up, but not at post-testing. The groups were equally effective at posttesting. Perhaps this was because the subjects in the standard desensitization group received the verbal-instructions from Ellis' rational-emotive therapy. The possibility that this procedural modification, which was similar to self-instructional training, affected the treatment outcome, cannot be ignored.

Several suggestions for improving the study can be made. First, the outcome measures were all based on self-report. More objective, performance-based measures would add credibility to the study's findings. An attempt was made to obtain ratings of the subjects' behavior by their peers. Unfortunately, an inadequate return rate prevented meaningful analysis of these data.

The fact that treatment lasted only five weeks was a cause of concern, as most studies of this kind last at least seven weeks. Nevertheless beneficial behavior change occurred according to the subjects' self-reports. Follow-up at two months served to confirm these changes, especially in the self-instructional group. One wonders if even greater improvement would have been possible if treatment lasted longer.

In all treatment groups, requests for the use of more detail in describing hierarchy scenes were made by almost all subjects. The experimenter did use increasingly more detail in the fourth and fifth sessions, but kept this increase constant across all groups. Subjects made additional requests for the use of more detail when asked to imagine themselves mastering or coping with a situation. The experimenter consulted previous research to answer questions about the definition of terms mastering and coping, using similar verbal instructions, but she found no mention or rationale for explaining those terms to subjects. These terms were never explained as clearly as the subjects would have preferred.

With regard to a subject's progression from one hierarchy item to another, more explicit criteria as to what constituted felt anxiety by subjects would have alleviated some doubt on the part of the experimenter. Occasionally a subject would both raise and then lower her hand when asked if any anxiety was felt, indicating some uncertainty as to how to label what she was feeling. With the desensitization plus coping group, and the self-instructional training group, lack of anxiety was not a prerequisite for progression from one item to another, and yet the use of a SUDS (subjective units of discomfort) scale may have facilitated the experimenter's knowledge of specifically how relaxed or anxious the subjects were becoming as a result of her use of verbal instructions.

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If research in this area is to continue, better definitions of what constitutes self-instructions and coping imagery are necessary. Whether self-instructions means modeling rational-emotive statements, thinking of the "positive" aspects of an issue, using humor as an antidote, or telling subjects to create an entirely new philosophy for interpreting a situation, will need to be more clearly specified. Otherwise, the success of a particular procedure will remain dependent on the therapist's idiosyncratic interpretation or approach, rather than on the efficacy of a reliable and proven behavioral technique.

Criticism from many sources has been directed at the field of behavior therapy for not seriously attending to the role of thinking or cognitions in the modification of behavior. The present research was designed to demonstrate that this need not be the case. As many types of therapy have suggested, the thoughts of the client may be influenced by the same modification procedures (modeling, reinforcement, imagery procedures) that are used for more overt behaviors.

Footnotes

Note 1. While shyness occurs in both males and females, the female pronoun will be used in this paper to refer to both sexes and to avoid needless redundancy of words.

Note 2. Although shyness is very similar to the concept of unassertiveness, it is possible to distinguish between the two on the basis of the degree of the person's social environment affected by the problem. While unassertiveness mainly concerns a person's interpersonal interactions, shyness anxiety seems to encompass a much broader spectrum of the person's environment. This includes avoidance of not only interpersonal interactions, but also group situations, where a much more diffuse and subtle interaction is required.

Note 3. This treatment group followed Wolpe's standard systematic desensitization (Paul & Shannon, 1966; Wolpe, 1958) except for one variation. During the fourth session of treatment the experimenter used verbal instructions which deviated slightly from the standard procedure. These included information from Albert Ellis' (1962) rational-emotive therapy counseling techniques. Otherwise this group followed standard procedure.

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APPENDICES

- A. Telephone Interview
- B. Informed Consent Form
- C. Assessment Devices
 - 1. Social Avoidance and Distress Questionnaire
 - 2. Fear of Negative Evaluation Scale
 - 3. Self-Report Questionnaire
 - 4. Program Evaluation Questionnaire
- D. Spatio-temporal Anxiety Hierarchy
- E. Treatment Rationale
- F. Relaxation Script
- G. Rationale of Hierarchy Construction
- H. Imagery Questionnaire
- I. Imagery Questionnaire Criteria

APPENDIX A

Telephone Interview

"Hi! This is Pat Hunter. I'm the psychology graduate student who conducted the survey in your _____ class yesterday on shyness. Do you remember me? (Wait for acknowledgement-give more information if necessary.) I've looked over the questionnaires, and see that you expressed an interest in learning more about shyness. That's great! I'm running a research study on shyness for my Master's thesis requirements, and I could sure use your help. Would you be interested in coming to a meeting I'm going to have about the project?" (Wait for response indicating interest or disinterest, and set up a meeting time, or try harder to persuade the student to participate. Express thanks regardless.)

APPENDIX B

PSYCHOLOGY DEPARTMENT "SHYNESS REDUCTION" PROJECT

Pat Hunter

Informed Consent Form

I understand that this is a research project and that some of the procedures I may be asked to carry out are in an experimental stage of development. Furthermore, I understand that I will be assigned to one of three treatment groups. Consequently, other people participating in the project may receive a somewhat different treatment than me.

It is also my understanding that there are no known physical or psychological risks that may result from the treatment I will receive. Conversely, it is hoped that the program will help me reduce or eliminate my shyness problem and this I want to do.

Furthermore, I understand that at the conclusion of this project I may request to receive the more effective treatment, if differences between the groups exist and I had received a less effective approach.

I understand that there are several procedures that may be used for shyness, including relaxation procedures, and that none of the procedures will involve any painful stimulation; nor will I be asked to take any intelligence or personality tests.

Pat Hunter and her assistants have agreed to answer any questions I have about the research, and I understand that I may withdraw this consent and discontinue my participation at any time.

I also understand that any personal information requested of or about me will only be obtained with my consent, and that if this information is published or presented in a scientific forum, my personal identity will not be revealed.

Informed Consent Form (continued)

Finally, I understand that my success or failure in this project may depend on any of several factors, including the type of treatment I receive, and does not reflect any deficiency in intelligence or personality problem.

Your signature: _____

Please Print Your Name: _____

Date: _____

APPENDIX C

NAME _____

PHONE _____

Social Avoidance and Distress (SAD) Scale

Please circle the answer that best describes your behavior in the following situations.

- | | | | |
|---|---|-----|--|
| T | F | 1. | I feel relaxed even in unfamiliar social situations. |
| T | F | 2. | I try to avoid situations which force me to be very sociable. |
| T | F | 3. | It is easy for me to relax when I am with strangers. |
| T | F | 4. | I have no particular desire to avoid people. |
| T | F | 5. | I often find social occasions upsetting. |
| T | F | 6. | I usually feel calm and comfortable at social occasions. |
| T | F | 7. | I am usually at ease when talking to someone of the opposite sex. |
| T | F | 8. | I try to avoid talking to people unless I know them well. |
| T | F | 9. | If the chance comes to meet new people, I often take it. |
| T | F | 10. | I often feel nervous or tense in casual get-togethers in which both sexes are present. |
| T | F | 11. | I am usually nervous with people unless I know them well. |
| T | F | 12. | I usually feel relaxed when I am with a group of people. |
| T | F | 13. | I often want to get away from people. |
| T | F | 14. | I usually feel uncomfortable when I am in a group of people I don't know. |

- | | | | |
|---|---|-----|--|
| T | F | 15. | I usually feel relaxed when I meet someone for the first time. |
| T | F | 16. | Being introduced to people makes me tense and nervous. |
| T | F | 17. | Even though a room is full of strangers, I may enter it anyway. |
| T | F | 18. | I would avoid walking up and joining a large group of people. |
| T | F | 19. | When my superiors want to talk with me, I talk willingly. |
| T | F | 20. | I often feel on edge when I am with a group of people. |
| T | F | 21. | I tend to withdraw from people. |
| T | F | 22. | I don't mind talking to people at parties or social gatherings. |
| T | F | 23. | I am seldom at ease in a large group of people. |
| T | F | 24. | I often think up excuses in order to avoid social engagements. |
| T | F | 25. | I sometimes take the responsibility of introducing people to each other. |
| T | F | 26. | I try to avoid formal social occasions. |
| T | F | 27. | I usually go to whatever social engagements I have. |
| T | F | 28. | I find it easy to relax with other people. |

FEAR OF NEGATIVE EVALUATION (FNE) SCALE

- | | | | |
|---|---|----|---|
| T | F | 1. | I rarely worry about seeming foolish to others. |
| T | F | 2. | I worry about what people will think of me even when I know it doesn't make any difference. |
| T | F | 3. | I become tense and jittery if I know someone is sizing me up. |
| T | F | 4. | I am unconcerned even if I know people are forming an unfavorable impression of me. |

- | | | | |
|---|---|-----|---|
| T | F | 5. | I feel very upset when I commit some social error. |
| T | F | 6. | The opinions that important people have of me cause me little concern. |
| T | F | 7. | I am often afraid that I may look ridiculous or make a fool of myself. |
| T | F | 8. | I react very little when other people disapprove of me. |
| T | F | 9. | I am frequently afraid of other people noticing my shortcomings. |
| T | F | 10. | The disapproval of others would have little effect on me. |
| T | F | 11. | If someone is evaluating me I tend to expect the worst. |
| T | F | 12. | I rarely worry about what kind of impression I am making on someone. |
| T | F | 13. | I am afraid that others will not approve of me. |
| T | F | 14. | I am afraid that people will find fault with me. |
| T | F | 15. | Other people's opinions of me do not bother me. |
| T | F | 16. | I am not necessarily upset if I do not please someone. |
| T | F | 17. | When I am talking to someone, I worry about what they may be thinking about me. |
| T | F | 18. | I feel that you can't help making social errors sometimes, so why worry about it. |
| T | F | 19. | I am usually worried about what kind of impression I make. |
| T | F | 20. | I worry a lot about what my superiors think of me. |
| T | F | 21. | If I know someone is judging me, it has little effect on me. |
| T | F | 22. | I worry that others will think I am not worthwhile. |

- | | | | |
|---|---|-----|--|
| T | F | 23. | I worry very little about what others may think of me. |
| T | F | 24. | Sometimes I think I am too concerned with what other people think of me. |
| T | F | 25. | I often worry that I will say or do the wrong things. |
| T | F | 26. | I often am indifferent to the opinions others have of me. |
| T | F | 27. | I am usually confident that others will have a favorable impression of me. |
| T | F | 28. | I often worry that people who are important to me won't think very much of me. |
| T | F | 29. | I brood about the opinions my friends have about me. |
| T | F | 30. | I become tense and jittery if I know I am being judged by my superiors. |

If your anxiety rating is high, and I want to call you and discuss the area of shyness, what evenings during the week would you most likely be home? _____

Thanks a lot for completing this!

APPENDIX C

Self-Report Questionnaire

Name _____

Please circle the adjectives below that most adequately describe your social life at present.

1. How frequently are you involved in social interactions during a typical month?

1	2	3	4	5	6	7	8	9	10
very frequently		frequently		↓ occasionally		rarely			never

2. How anxious would you consider yourself during those social interactions?

1	2	3	4	5	6	7	8	9	10
relaxed				occasionally	anxious				very anxious

3. How poised would you consider yourself during those interactions?

1	2	3	4	5	6	7	8	9	10
very poised				occasionally	poised				clumsy

APPENDIX D

Anxiety Hierarchies

Group I

1. Meeting somebody for the first time
2. Being at a party
3. Being dressed inappropriately at a social gathering
4. Making a joke that nobody laughs at
5. Making a joke that hurts somebody's feelings
6. Introducing somebody by the wrong name
7. Dropping your books as you walk into a crowded assembly hall
8. Overhearing yourself being gossiped about
9. Conducting yourself at a job interview
10. Joining a new organization
11. Going out on a first date

Group II

1. Being quiet in the midst of a very lively witty group of people
2. Being rejected by a peer
3. Having to introduce yourself to somebody that looks familiar
4. Receiving a compliment
5. Attending a group orientation where you don't know anybody
6. Being at a social gathering with friends
7. Appearing foolish by making a joke nobody laughs at
8. Meeting somebody for the first time
9. Feeling like a "third wheel"

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Group III

1. Introducing yourself to a familiar face
2. Being introduced to a friend's hometown buddies
3. Looking into somebody's eyes while talking
4. Being laughed at by friends
5. Being dressed inappropriately
6. Asking a professor questions about an upcoming test
7. Talking to the person next to you on a bus
8. Having your political views questioned by friends
9. Going to a party where you don't know anybody
10. Being stared at by people at a party

APPENDIX E

Treatment Rationale

"The emotional reactions that you experience, the feelings of shyness, are a result of your previous experiences with people and with situations; these reactions oftentimes lead to feelings of anxiety or tenseness which are really inappropriate not to mention uncomfortable. Since perceptions of situations occur within ourselves, it is possible to work with your reactions right here in this classroom by having you imagine or visualize those situations. We are going to use a behavioral treatment technique called Systematic Desensitization. The first stage consists of relaxation training where I am going to teach you how to become very relaxed--more relaxed than you have probably felt in a very long time. Once you have learned to relax, we will then use this relaxed state to counter the anxiety and tenseness that you feel whenever you are in the uncomfortable situations. We will do this by having you imagine--while you are still very relaxed--a series of progressively more tension-provoking scenes which you and I will develop and which are directly related to your feelings of shyness. We will thus countercondition your fear or desensitize your tenseness to the feared situations. This procedure has been

found to be very effective in the treatment of many types of fears. We will start the procedure by first teaching you how to become more relaxed and then asking you to practice the procedure at home. Do you have any questions?"

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APPENDIX F

Relaxation Script

Steps in Relaxation

1. Take a deep breath and hold it for about ten seconds. Hold it. Okay, let it out.
2. Raise both of your hands about half way above the floor and breathe normally. Now, drop your hands to the floor.
3. Now, hold your arms out and make a tight fist. Really tight. Feel the tension in your hands. I am going to count to three and when I say "three," I want you to drop your hands. One....Two....Three.
4. Raise your arms again, and bend your fingers back the other way toward your body. Now drop your hands and relax.
5. Raise your arms. Now drop them and relax.
6. Now, raise your arms again, but this time "flap" your hands around. Okay, relax again.
7. Raise your arms again. Now, relax.
8. Raise your arms above the floor again and tense your biceps until they shake. Breathe normally, and keep your hands loose. Relax your hands. Notice the warm feeling.
9. Now hold your arms out to your side and tense your biceps. Make sure that you breathe normally. Relax your arms.
10. Now arch your shoulders back. Hold it. Make sure that your arms are relaxed. Now relax.
11. Hunch your shoulders forward. Hold it, and make sure that you breathe normally and keep your arms relaxed. Okay, relax. Notice the feeling of relief from tensing and relaxing your muscles.

12. Now, turn your head to the right and tense your neck. Okay, relax and allow your head to come back to its natural position.
13. Turn your head to the left and tense your neck. Relax and bring your head back again to its natural position.
14. Now, bend your head back slightly towards the floor. Hold it. Okay, now bring your head back slowly to its natural position.
15. This time bring your head down almost to your chest. Hold it. Now relax and let your head come back to its natural resting position.
16. Now, open your mouth as much as possible. A little wider, okay, relax.
17. Now tense your lips by closing your mouth. O.K. relax. Notice the feeling of warmth.
18. Put your tongue at the roof of your mouth. Press hard. Relax and allow your tongue to come to a comfortable position in your mouth.
19. Now put your tongue at the bottom of your mouth. Press down hard. Relax and let your tongue come to a comfortable position in your mouth.
20. Now just lay there and relax. Try not to think of anything.
21. Now, close your eyes. Squeeze them tight and breathe naturally. Notice the tension. Now relax. Notice how the pain goes away when you relax.
22. Now, let your eyes just lay there and keep your mouth open slightly.
23. Open your eyes as much as possible. Hold it. Relax your eyes.
24. Now wrinkle your forehead as much as possible. Hold it. Okay, relax.
25. Now take a deep breath and hold it. Relax.
26. Now exhale. Breathe all the air out...all of it. Relax.

27. Imagine that there are weights pulling on your muscles, making them flacid and relaxed...pulling your arms and body into the floor.
28. Pull your stomach muscles together. Tighter. Okay, relax.
29. Now extend your muscles as if you were a Prize Fighter. Make your stomach hard. Relax. You are becoming more and more relaxed.
30. Now tense your buttocks. Tighter. Hold it. Now relax.
31. Raise both your legs to about a 45' angle. Now relax.
32. Now bend your feet back so that your toes point towards your face. Relax your mouth. Bend them hard. Relax.
33. Bend your feet the other way...away from your body. Not far. Notice the tension. Relax.
34. Curl your toes together--as hard as you can. Tighter. Okay, relax.
35. This completes the formal relaxation procedure.

APPENDIX G

Rationale of Hierarchy Construction

"You will remember that you were given two questionnaires to complete when I first tested you in class. Those questionnaires identified the social situations which were the most upsetting to you as a group, and which were most related to your shyness. I want you to help me construct an anxiety hierarchy for this group based on your responses to the two questionnaires, by making a list of the situations which produce increasingly more anxiety and tension. You all will tell me the two situations in a social setting which cause you the most anxiety, and you and I will rate each situation for its anxiety-provoking value to the group as a whole. He will divide these social fears on a zero to one-hundred scale and assign an anxiety-provoking situation to every tenth value (100 representing the most anxiety-provoking situation)."

APPENDIX H

Test for Imagery

Name _____

Please circle the adjectives that most adequately describe the image you had.

1. How vivid was the image?

1	2	3	4	5	6	7	8	9	10
very vivid				somewhat vivid				not at all vivid	

2. Did the image include details?

1	2	3	4	5	6	7	8	9	10
very detailed				somewhat detailed				not at all detailed	

3. How many minutes did you need to produce the image?

_____ minutes

APPENDIX I

Criteria for Imagery Questionnaire

1. How vivid was the image? -- Subject had to score between 1 and 5. All subjects did.
2. Did the image include details? -- Subject had to score between 1 and 5. All did.
3. How many minutes did you need to produce the Image?-- Subject had to respond in 2 minutes or less. All took 1 minute or less to produce the image.